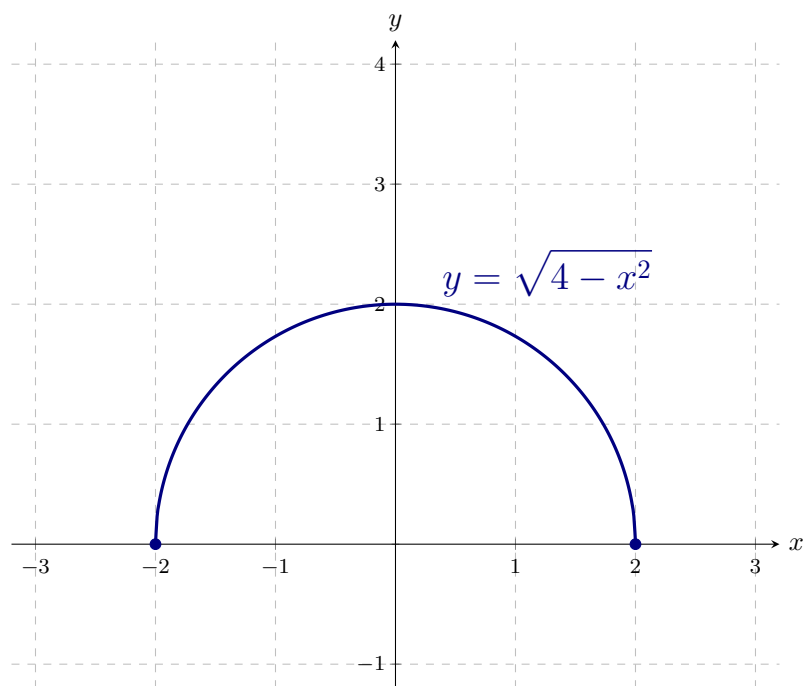


If R is a positive constant, then the graph of $y = \sqrt{R^2 - x^2}$ is the top half of the circle of radius R centered at the origin.

As an example, this is graphed below for $R = 2$.



Exercise 1 The domain of the function $\sqrt{4 - x^2}$ is $[-2, 2]$ and the range is $[0, 2]$.

Hint: This is exactly the function graphed above.

Exercise 1.1 The domain of the function $\sqrt{25 - x^2}$ is $[-5, 5]$ and the range is $[0, 5]$.

Hint: This is $\sqrt{R^2 - x^2}$ for $R = 5$. The graph of this function is a circle with what radius?

Exercise 1.1.1 The domain of the function $\sqrt{R^2 - x^2}$ is $[-R, R]$ and the range is $[0, R]$.

Hint: The graph of this function is a circle with what radius?
